Louisiana Administrative Code
Title 51
Part XIII. Sewage Disposal

Regulations Regarding Septic Tank Installations with Sand Filters For Individual Residential Installations

Chapter 3. General Requirements for Sewerage Disposal

§303. Responsible Parties

A. A person who owns, operates, manages, or otherwise controls any premises, shall provide for sewage disposal in a manner which is in compliance with this Code.

§305. Discharges

A. A person shall not directly or indirectly discharge, or allow to be discharged, the contents or effluent from any plumbing fixtures, vault, privy, portable toilet, or septic tank, into any road, street, gutter, ditch, water course, body of water, or onto the surface of the ground.

Chapter 7. Individual Sewerage Systems

Subchapter A. General Requirements

§703. Plans

A. The review and approval of plans and specifications for the proposed individual sewerage system shall be made in accordance with the "Regulations Controlling the Design and Construction of Individual Sewage Systems" (See Chapter 7, Subchapter B).

Subchapter B. Design and Construction Regulations

§715. Septic Tanks

A. A septic tank is a watertight tank made of steel, concrete or other approved materials in which the settleable solids of sewage settle out and are largely changed into liquids or gases by bacterial decomposition. The remaining residue in the tank is a heavy, black semi-liquid sludge which must be removed from the tank periodically. Although the completely digested sludge contains relatively few disease germs, in cleaning the tank it is impossible to remove the digested sludge without removing some undigested material. Therefore, it is particularly important that the removed sludge be disposed of in a safe manner. There are commercial service companies that will contract for septic tank cleaning and sludge disposal. Such commercial services are controlled by a permit system in accordance with §901 of this Part.

B. Multiple compartment septic tanks or single chamber septic tanks in series provide more effective treatment than single chamber tanks of the same total capacity; therefore, the use of multiple compartment tanks or single tanks in series is encouraged. However, single chamber septic tanks are acceptable.

C. The velocity of flow through the tanks must be such that maximum solids and scum retention is achieved. Vertical cylindrical tanks must have horizontal (inlet-to-outlet) separation of at least 24 inches.

1. Tees or baffles must be used at the inlet. The outlet must be designed so as to preclude floating solids from escaping from the tank. The inlet tee or baffle diverts the incoming sewage toward the bottom of the tank without disturbing the scum which forms on the surface of the liquid, and the outlet prevents the surface scum from flowing out of the tank.

D. The minimum total septic tank liquid capacity required is 2 1/2 times the estimated average daily design flow. Sewage loading criteria for determining the average daily design flow and organic loading are contained in Chapter 15 of this Part. One-bedroom residences may, however, utilize a 500 gallon tank.

NOTE: The minimum allowable total septic tank volume for all applications is 500 gallons.

E. The distance between the inlet and outlet openings in the tank wall, measured horizontally, shall be not less than 24 inches. The distance between the inlet and outlet shall exceed the width of rectangular and oval-shaped tanks.

F. The tank shall operate with a liquid depth between a minimum of 30 inches and a maximum of 72 inches measured vertically from the invert of the outlet (overflow level) to the bottom of the tank. Recent septic tank studies have indicated the shallower tank to be more efficient and is therefore preferred.

G. For tanks having straight vertical sides, the dimension between the top of the tank and the liquid level shall not be less than 15 percent of the liquid depth. In horizontal cylindrical tanks, the volume of the air space above the liquid shall not be less than 15 percent of the liquid capacity. In the latter case, this condition is met if the liquid depth (distance from outlet invert to bottom of tank) is at least 79 percent of the diameter of the tank.

H. A single tank may be divided into two or more compartments by means of internal partitions. Each compartment shall conform to the dimensions limitations for complete tanks and shall have a liquid capacity of at least 250 gallons. The total liquid capacity shall conform to the requirements for single chamber tanks. No tanks shall have more than three compartments.

I. The tank shall be constructed of materials which are corrosion resistant and provide a watertight permanent structure. The cover of the tank shall be designed for a dead load of not less than 150 pounds per square foot. Concrete covers must be reinforced with steel and must be not less than 4 inches thick. Metal septic tanks shall comply with the requirements of §715.O. Tanks of other materials such as fiberglass will be reviewed for acceptance on an individual basis. They will be required to comply generally with the basic applicable standards for metal septic tanks.

J. Access to the septic tank for cleaning and inspection shall be provided by a removable cover or manhole. Both inlet and outlet devices as well as each compartment in multiple compartment tanks must be accessible. Manholes, when used shall be at least 20 inches square or 24 inches in diameter and provided with covers which can be sealed watertight. Septic tanks with removable covers must be provided with an 8-inch inspection hole over the inlet and the outlet.

K. Either tees or baffles shall be provided at the inlet of the tank and shall extend upward at least 6 inches above the liquid level of the tank. The inlet tee or baffle shall extend downward to at least 6 inches below the liquid level, but it shall not extend below the level of the lower end of the outlet tee or baffle. At least 2

inches of open space shall be provided above the baffle or tee to provide ventilation to the tank through the building plumbing system.

L. On the outlet side the tee or baffle shall extend downward to a distance below the water surface equal to 40 percent of the liquid depth of tanks with vertical sides and 35 percent of liquid depth of tanks of other shapes as measured to the nearest inch. If a tee or baffle is used in the outlet the upper end shall extend 6 inches above the liquid level.

M. Inlet and outlet fittings (tees or ells) must be of cast iron, schedule 40 PVC or ABS plastic or other approved material.

N. The invert of the inlet shall be located at least 2 inches above the invert of the outlet.

O. Metal septic tanks shall be prefabricated of a minimum of 14 gauge commercial grade steel. Corrosion protection shall, at a minimum, consist of a hot-dipped asphalt coating of at least 0.025-inch thickness properly applied to all surfaces of the new, clean, bare metal.

P. The location of a septic tank shall comply with minimum distance requirements from water wells, water lines, etc. as contained in Part XII, of this Code.

Q. The use of septic tanks in series is encouraged. The first tank shall have at least a 500-gallon liquid capacity and all subsequent tanks shall have at least 300-gallon liquid capacities. The total capacity of all tanks in series must comply with the capacities for septic tanks as prescribed in §715.D.

R. Piping from the house to the septic tank must be such that the waste flow does not disturb the retention of scum and sludge in the tank. To attain this, the inlet piping from the house must have a minimum diameter of four inches and be laid on a slope of at least 1/8 inch per foot. The slope for the last 10 feet of line preceding the septic tank must not exceed 1/4 inch per foot. All plastic piping, excluding perforated pipe, must be a minimum of SDR 35 sewer and drainage pipe or equivalent.

S. Backfill around septic tanks must be made in thin layers thoroughly tamped in a manner that will not produce undue strain on the tank. Sufficient soil cover can be provided over the top of the septic tank to permit grass growth. However, no other obstruction to access (i.e., concrete slabs, buildings, etc.) shall be allowed.

T. Septic tanks should be inspected every six years and pumped at least every eight years by a licensed sewage hauler.

U. Untreated or uncoated metal septic tanks shall not be used.

V. Abandoned septic tanks (tanks no longer in active use) shall be pumped out by a licensed sewage hauler, then removed or the cover discarded and the tank filled with soil to natural grade. The contents of the abandoned tank shall not be placed into a newly installed individual sewerage system.

§723. Sand Filter

A. Another alternative for the secondary treatment of septic tank effluent is a deep-type sand filter bed. Treatment in a sand filter bed is accomplished by the action of microorganisms in a sand bed in which the suspended solids of the septic tank effluent have been trapped by filtration. It is important that the sand bed remain aerobic throughout the treatment process. This is accomplished by exposing the sand surface to the air as much as possible on a continuous basis. Of course, the best way this can be done is to place no cover whatsoever over the sand bed. Since this is not aesthetically desirable for homes, a coarse gravel cover of

clean, washed gravel, not to exceed 6 inches in depth over the bed is permitted. No other cover is acceptable.

B. The sand filter bed is constructed by placing perforated pipe near the bottom of a rectangular area of the required size in a layer of gravel covered by a layer of coarse sand 24 inches deep. On top of this are placed distribution lines (perforated pipe) likewise encased in a layer of gravel. The septic tank effluent is distributed speedily in the gravel cover spreading over the top of the sand seeping slowly and vertically through the sand to the bottom layer of gravel to be carried away in the under drain line.

C. Sand filter beds are to be constructed with a minimum width of 12 feet and a minimum length of 25 feet. This minimum size filter bed is adequately sized for design flows of up to 400 gpd. For greater design flows, the required length shall be increased by eight feet for each additional 150 gpd or portion thereof.

D. The bed must be drained completely. This may require the bed to be raised above natural ground level.

E. To prevent sand infiltration into the underdrain, a layer of graded gravel must be placed over the underdrain line and the entire bottom of the filter bed. All gravel must be clean and washed.

F. Filter sand shall conform to the following standard specifications.

U.S. Sieve Size	**Tyler Screen Size**	**% Passing (By Weight)**
Number 4	Number 4	95-100
	Number 14	60-80
Number 16	Number 28	5-20
Number 50	Number 48	0-5
Number 100	Number 100	0

G. At least two distribution lines must be provided and they must be sloped 2 inches to 3 inches per 100 feet. The lines must be 4-inch diameter, 20-inch long farm tile, 2 feet to 3-feet lengths of vitrified clay bell-and-spigot sewer pipe laid with open joints, or perforated nonmetallic pipe meeting one of the standards cited in §719.M. The ends of the distribution lines must be half-closed.

H. Under drain pipe materials are the same as those for the distribution pipe, however, the slope must be no less than 4 inches per 100 feet.

I. The filter bed must be appropriately protected from surface runoff water.

J. The filter bed must be located no less than 10 feet from the property line.

K. The location of the filter bed shall comply with minimum distance requirements from water wells, water lines, etc., as contained in Part XII of this Code.